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Original Communications.

NOTES ON PEPSIN.

By EDWARD H. HOSKIN. M.D., Lowell.

MUCH has been said about physicians' prescriptions being inaccurately compounded, and much fault found with the incompetency of apothecaries and their assistants—frequently, no doubt, without injustice to either party. As much fault may be found with some of the preparations, because of their impurities, and often of the positive inertness of what should be the active principle on which the efficacy of the drug depends. Amongst these preparations, pepsin is particularly alluded to.

The market is flooded with pepsin, of German, French, English, and American manufacture, its elixirs, wines, and troches—elixirs *per se*, and in alleged combination with bismuth, iron, strychnia, &c.—in fact, so elegantly, and apparently therapeutically combined, as to please the eye, taste and judgment of the physician, and by its promised combination, to appear to him as the very thing he wants in his daily practice. All is not gold that glitters, nor is all pepsin that is called so, nor do all its preparations contain the promised principle.

Curiosity at first induced me to examine a sample of Boudalt's pepsin, and getting a negative result, I still more carefully tried three other samples of the same make, and found all inert; I then tried Velpeau's, and with the same result, and then various samples of American preparation, but not one could I find that was in any way a solvent of coagulated albumen. I next tried some elixirs, and not one of these would produce the required result; then some of the wines, and with the same lack of success.

After these experiments, I came to the conclusion that pepsin, as sold in the shops, was a fraud, that physicians were defrauded of their success, and the patient of his health and his means, through the worthlessness of the drug supplied.

But on looking over a review of the new Pharmacopœia, in the JOURNAL of March 13th, I noticed the mention of the pepsin made by Sheffer, of Louisville, and being anxious, if possible, to find a reliable article, I wrote to him for a sample, and received by mail two descriptions—"saccharated pepsin," and "concentrated pepsin." I at once experimented with them, and obtained most excellent results.

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With one grain of the concentrated article, I obtained the solution of one hundred grains of coagulated albumen, and with five grains of the saccharated, sixty grains of albumen—in each case using one ounce of water and six drops of muriatic acid. With one grain, also, of the former, I procured the solution of 137 grains of raw, lean beef.

These results are, I think, eminently satisfactory, and prove, at least, that there is one reliable article to be had—of home manufacture, also, instead of heavily dutied foreign goods, and which so frequently are considered the only reliable preparations.

I have been sceptical as to the therapeutic value of the so-called pepsin wines and elixirs, and my experiments have proved that, at all events, the pepsin used in their manufacture is not of any use, for there is no solvent action exerted whatever on coagulated albumen by any one of them that I have yet tried.

This may be the proper place to describe the method I adopt for detecting the presence of what I will call active pepsin.

It is well known that the presence of albumen in diabetic urine is an obstacle to the detection of the sugar, and that a fine mauve or purple color is produced on the addition of either Trommer's or Fehling's test solution. It occurred to me that this reaction would just come in for my purpose. Take coagulated albumen, and put into the pepsin wine, or elixir; submit to one hundred degrees Fahr. in a water bath, and if there is any of the active peptic principle present, solution of so much of the coagulum will ensue, and the albumen reduced to an allotropic condition, which, when added to the test solution, would produce the purple color.

On trying the experiment, no such thing occurred; but, on making a simple solution of pepsin in water, adding acid and albumen, and digesting for half an hour, I procured a solution which, on addition of the cupreous test, at once yielded the splendid color; repeated trials have yielded the same results. Flesh, or cheese, may be used in place of albumen, as all that is required is to obtain a peptone, and the reaction will show it; hence proving that pepsin must have been present in order to its production.

I have repeatedly dissolved a perfectly good pepsin in sherry wine, added chlorhydric acid and albumen, and submitted to a water bath and then tested for peptone; but in no case have I been able to detect it. From this fact, I conclude that pepsin wines are useless, as far as the drug is concerned, and that the presence of the alcohol, or the small proportion of tannin, or both, destroys its catalytic action. Tannin, in solution, does the same thing. So, also, do most metallic salts; and here I would quote from Dr. T. King Chambers "On the Indigestions," page 94:—"But for the time named, I advise its being given alone, and the action not interfered with in general by other medicines. *Many* will really *prevent* its *chemical effect*, and all will confuse one's judgment of the advantage gained."

But, if to a peptone already formed, either wine, alcohol, tannin,

or a metallic salt is added, the addition of the test will at once exhibit its reaction, though tannin, if in large quantity, somewhat masks it. From this, it appears that the failure of the test to indicate pepsin in wine or dilute alcohol, or in the presence of tannin, or a metallic salt, does not result from the action being masked, but from the fact of the pepsin (under the conditions) being inert.

If, then, these elegant pseudo-pharmaceutical preparations will not accomplish the conversion of a protein substance into a peptone in the test tube, there is, I think, small likelihood of their doing so in the disabled stomach. It is true the other ingredients may be of service, but often it is the pepsin that the physician is prescribing the compound for, and frequently the one thing the patient most requires; so that, if the above conclusions are true, then, indeed, are physicians laboring in the dark, and their patients done out of their health and their money.

Since writing the above, I have tried samples of Dr. Hawley's preparation, and find that his wine and glycerole of pepsin are good articles, but the wine does not appear to be a pure sherry, and the proportion of alcohol so small as not to interfere with the functions of the principle. They both will dissolve albumen, but not so actively as Sheffer's.

I give these few facts for what they are worth, and hope at least they may be of some service to the profession, especially to those who have not the time for making the investigations they otherwise would do, and to those who may have been disappointed in not obtaining results they may have been led reasonably to expect.

PARALYSIS DURING VARIOLA.

By S. G. WEBBER, M.D.

THE article by Dr. Goss in the number of the JOURNAL for May 8th, recalls to my mind a communication by Westphal, which I had lately read on this subject. Paralysis may occur after variola as after other febrile diseases, typhus, typhoid, yellow fever, and especially it is seen after diphtheria. In most cases, except after diphtheria, paralysis is seen most frequently after the severer forms of the disease, and seems dependent upon the severity. It occurs generally towards the close of the disease, or during convalescence. That it may occur near the beginning is, however, recognized by Trousseau; and Graves refers the causation of the post-febrile paralysis to the initial backache. Both these writers consider that there is congestion or inflammation of the cord.

Trousseau is most clear in the statement of these views. He says: "This backache is not, as has been supposed, a muscular pain, it depends upon an affection of the spinal cord; here is the proof: in rather a large number of cases—and last year within a few days I

was able to show you two cases—the lumbar pain is accompanied with paraplegia. Without being questioned on this point, the patients themselves complain of this paralysis; they complain of painful numbness in the legs, which they cannot move; and on examination you find the arms not affected. This paraplegia sometimes attacks the bladder, as shown by retention of urine, or at least dysuria.

"Though generally fugitive, these paralytic symptoms may in some cases persist until the ninth and tenth day of the disease; they frequently disappear spontaneously when the eruption appears. In other cases, however, they remain not only during the whole course of the variola, but even afterwards, and then form one of the complications of convalescence." (*Clinique Médicale de l'Hôtel Dieu*, tome i. p. 5.)

Trousseau mentions paralysis as one of the initial phenomena in modified variola. (*Ibid*, p. 28.)

Trousseau also reports a case of paraplegia in a young woman, at the commencement of a light attack of typhoid. The patient, six years previously, had been paraplegic for a year. In this case, as in Dr. Goss's, there was a predisposition on the part of the nervous system. (*Ibid*, p. 268.)

It is unfortunate that Dr. Goss could not obtain an autopsy. In Westphal's cases, to which reference has been made, this was possible.

On July 17, 1872, Westphal reported to the Berlin Medical Society two cases of disease of spinal cord in paraplegia after variola.* One case he followed in his clinic, of the other he only saw the autopsy. In the first, a young man previously healthy, 22 years old, was taken sick November 5, 1871, with headache, anorexia and chills. A few days later, a very scanty eruption of smallpox appeared. The whole disturbance was so slight that he did not stay a day in bed. On the third day, while going up stairs, his legs felt heavy, and for that reason he lay down. The urine had to be drawn off. The next morning both legs were entirely paralyzed. On November 12th, he was sent to the smallpox hospital, and, on December 2d, was transferred to Westphal's clinic. At the latter date, there was complete motor paralysis of the legs—only a slight movement of the toes could be accomplished—loss of reflex action, sensibility retained, paralysis of the bladder, bed-sore. The faradaic irritability of the muscles was retained. There was a gradual improvement until, on January 19, 1872, he could stand, and with the help of a cane could walk a few steps. Perityphlitis set in, and, on April 8, 1872, he died.

The second case was a patient of Dr. Levinstein, a man 32 years old, who, after slight prodromic symptoms, was taken sick with smallpox, January 24th. The eruption was moderately thick, but not at all confluent. On February 4th, there was incontinence of urine; the next day he awoke with complete motor paralysis of the left leg, with a sense of prickling, as if "going to sleep;" the next day the

* Berliner Klinische Wochenschrift, Nov. 18, 1872.

right leg was also paralyzed, and the fæces passed involuntarily. The insensibility of the legs was very much diminished. The muscles reacted well to the faradaic current. He died, with bed-sore and cystitis, March 3d.

Westphal found, at the autopsy, the spinal dura mater and pia mater not especially changed; the grey substance of the cord was hyperæmic, and, in some sections in the lumbar portion, the two halves differed in color; the right half had a clear grey appearance, the left half was of a dark brownish red color. The latter color was common to both halves at a higher level; this gradually shaded off into the normal color at the cervical portion. The white substance was not colored, contained little blood. The nerve roots were apparently normal. There was no special change in the brain. The sciatic nerve showed a very slight infiltration of blood between the bundles of nerve fibres.

Bichromate of potassa colored the diseased portion with unusual intensity, showing a very great severity in the disease; the distribution of the change was very irregular. In one spot, the gray and white substances on both sides were changed; at another, one side was affected alone, or more than the other: on other sections, the white and gray substances were differently affected, or the diseased portions were separated by healthy tissue. Foci of softening of the size of a pin's head, were found in the grey substance of the upper dorsal region. The microscope showed immense collections of granular fatty cells in the grey and white substance, and at the confines of the foci of softening; also hyperæmia confined to the diseased portions without a sign of hæmorrhage. The infiltration of the sciatic might have been post-mortem.

In the first case, the disease of the white substance was greater than that of the grey; the sciatic was normal. Westphal considers these cases of disseminated myelitis, and that the changes in the cord are sufficient to explain the paraplegia; therefore, the paralysis is not "functional."

The first of these two cases, it will be seen, closely resembles the case reported by Dr. Goss in the mildness of the variolous attack, and the early appearance of the paralytic symptoms, on the third day after the eruption. The arms were not, however, affected, and a cure was probable, until another complication occurred.

In view of these facts and quotations, it is legitimate to conclude, that in Dr. Goss's case, the paralysis was the direct result of the variolous disease, and would not have occurred alone.

Chalvet, in a thesis on *paralysie ascendante aiguë*, tabulates, under *etiologie*, three cases as occurring during or after variola, but does not refer to the cases nor the authors. As his bibliographic index includes only French authors, those three are probably to be found among them.

Progress in Medicine.

REPORT ON DISEASES OF THE THROAT.

By F. I. KNIGHT, M.D. Harv.

(Concluded from page 500.)

DIPHTHERIA.

(1.) Die Anwendung der Carbolsäure bei Diphtheritis der Kinder. (*Sitzungs-bericht der Gesellschaft für Geburtshilfe zu Leipzig.*) (*Allgemeine Medicinische Central-Zeitung*, August 14, 1872.) [Very successful.]

(2.) Vortrag über Diphtherie; geh. in der *Berliner Medicinischer Gesellschaft* am 17 April, 1872. (*Berliner Klinische Wochenschrift.*) *Jahrbuch für Kinderheilkunde*, N. F., V. Jahrgang, 4 Heft.

(3.) Der Croup und die Diphtherie. Dr. H. M. Cohen (Hamburg). *Allgemeine Medicinische Central-Zeitung*, October 9, 1872.

(4.) Natura e Therapie dell' Angina Difterica, del Dottor Oscar Giacchi. Pp. 23. Poppi, 1872. (*British Medical Journal*, Dec. 21st, 1872.)

(5.) Ueber Collapsus nach Diphtherie. Prof. Fr. Mosler. (*Archiv der Heilkunde*, 1 Heft, 1873.) (*Allgemeine Medicinische Central-Zeitung*, Jan. 24 and 25, 1873.)

(6.) Zwei seltene Vorkommnisse bei Diphtheritis. Von Dr. Huebner, Docent in Leipzig. [In the first case there was erysipelas of the face, and in the second the disease was limited to the larynx, and also there was found, quite independent of the diphtheria, an old, genuine, primary tuberculous affection of the bronchial glands.]

(7.) Ueber innere Behandlung der Diphtheritis. Dr. Kühne (Moringen). *Berliner Klinische Wochenschrift*, Feb. 10, 1873.

(2) Dr. SENATOR disputes that the fungi found in diphtheria have any special specific significance for this disease, because the same fungi occur in perfectly healthy individuals, and especially because in case of primary diphtheria of the larynx, with or without subsequent affection of the pharynx, the fungi do not occur, when no transference from the mouth has taken place (for instance, in those cases where tracheotomy has been performed). In consequence of a diphtheritic infection, there arises, according to Senator, either a simple catarrh or an epithelial degeneration, erroneously called croupous pharyngitis; or the true diphtheria, necrotic inflammation, with infiltration of the mucous membrane, which may lead to angina gangrenosa; or, finally, a genuine croupous inflammation of the respiratory mucous membrane. But none of the forms is characteristic of diphtheria, and may arise without diphtheritic infection; for instance, the epithelial degeneration in the throats of very sick patients, which is perhaps similar to the degeneration in the bladder and urethra, connected with the production of ammonia. Neither can the diphtheritic paralysis be looked upon as peculiar, but as analogous to the paralyzes after dysentery, the puerperal paralyzes, and urinary paraplegia. Senator speaks against all very forced local treatment.

In the discussion which followed, M. Wolff and Zülzer spoke against the summary dismissal of the fungi question.

Langenbeck admonished against the too enthusiastic acceptance of the fungi theory, and mentioned his own disappointment, when he thought he had discovered the bearer of the infection in mucus, at finding the same fungi in the sweat of a riding horse.

Schweiger maintained the special nature of the diphtheritic paralysis. He said that even the beginning of paralysis in the uvula was characteristic, from which it passes over not to the trunk, but to the ciliary branches of the oculo-motorius.

Waldenburg said the anatomical and clinical standpoints must be different. In a clinical sense, there is no distinction between croup and diphtheria; that is, the same cause can produce diphtheria in the pharynx and croup in the larynx. Under diphtheria, however, is to be understood, clinically, exclusively the contagious miasmatic disease, independent of season and climate, accompanied by general appearances of infection, whilst laryngitis membranacea is a non-contagious, non-epidemic, purely local inflammatory affection of the larynx.

Waldenburg considered it now decided that diphtheria, in the beginning, is local, and becomes general secondarily. The relation of fungi to the disease, however, he did not think established. The treatment of laryngitis membranacea should be antiphlogistic, that of diphtheria tonic; for the latter, however, he recommends local treatment, lime water, lactic acid, fumes of bromine, and carbonate of lithia, but considers cauterization injudicious. He considered lime water only beneficial when employed in form of frequent and long-continued inhalations.

Traube said there was a peculiar specific disease (diphtheria) which either mediately or immediately could produce various results in the pharynx, indeed, not only a necrotic, but also a "pellicular" inflammation; the two forms also may exist near one another. Traube spoke in favor of the employment of the mercurial ointment in diphtheria in strong individuals, when the process is encroaching upon the larynx from the pharynx. He also employs lime water and cauterizes, but spoke against the tonic treatment recommended by Waldenburg, unless there is violent fever, with collapse.

Senator said that he did not share the good opinion which Waldenburg had in regard to the solvent property of lime water, and that Gottwold did not maintain that bromine inhalations dissolved the croup membrane, but that they only promoted expectoration. (Senator is mistaken. Gottwold maintains exactly the opposite. Reporter in *Jahrbuch für Kinderheilkunde*.)

Lewin said that he distinguished a proto- and a deuteropathic diphtheritic process. The protopathic diphtheria attacks in preference mucous membranes covered with pavement epithelium, and standing in communication with the atmospheric air: the pharynx, the hard and soft palate, the palatine arches, the uvula, tonsils, base of the tongue, the conjunctiva and vagina. Indications of fever are altogether absent or slight. It very frequently ceases spontaneously; more rarely, proceeds into the larynx, and can here also cease spontaneously, or lead to a severe general affection. The contagion in the protopathic form of diphtheria is of a more fixed nature; therefore it occurs more sporadically. By appropriate local treatment, the spread of the disease can be prevented. The deuteropathic diphtheria affects, besides the above-mentioned organs, also the naso-pharyngeal space, the posterior

nares, the œsophagus and the skin; this form has a great tendency to quickly invade the air-passages, more or less fever always precedes it, so that we must here consider the general poisoning as the primary affection. The contagion in this form is of a more volatile nature, and seems to be received through the respiratory organs (epidemic diphtheria). Local treatment avails nothing.

A third form of diphtheria is secondary to the exanthemata, typhus fever, variola, &c.; it also probably occurs in consequence of a volatile contagion, through the influence of putrid substances on the mucous membrane. Clinically, the croupous and diphtheritic processes present the same appearance, and seem to proceed from the same cause. Anatomically, there is a deposit or infiltration, according to the preëxisting histological condition of the affected tissue.

Lewin founds these views —

1. Historically, because no author ([?] reporter in *Jahrbuch für Kinderheilkunde*) since Brettonneau has distinguished the croupous and diphtheritic processes in general.

2. Because both processes can go on in one and the same individual.

3. Croup and diphtheria divide themselves exactly, in the larynx, between the mucous membrane covered with cylindrical and that covered by pavement epithelium. Lewin here appeals to Virchow, Rindfleisch and Wagner.

4. Primary croup of the larynx occurs very rarely, and even these few cases can be explained by the diphtheritic process in the pharynx having been overlooked, or by the process in the larynx beginning in the pavement-epithelium region, or, finally, by confounding them with severe cases of catarrhal laryngitis.

Catarrhal laryngitis may be accompanied by a train of symptoms in all respects coinciding with those of croup; indeed, in certain cases of laryngeal catarrh, there is formed upon the swollen mucous membrane a tough mass of mucus, rich in cells, and not easily moved, whereby the similarity is increased; in many cases, only the laryngoscope can help one to a positive diagnosis.

Fränkel denied that croup and diphtheria occur so sharply defined, according to the nature of the epithelium affected. He proposed, as a new means of dissolving membranes, pepsin, the rare occurrence of diphtheria in the stomach, which is strongly exposed to the contagion, speaking theoretically for its employment.

(3.) Dr. COHEN says that the conclusions arrived at from the above discussion, in the Berlin Medical Society, was that "diphtheria in the fauces is necrotic, in the larynx croupous," and proceeds at some length to show that this position is confirmed neither by the results of *post-mortem* examinations, nor by the history, pathognomonic signs, nor therapeutics of diphtheria.

(4.) According to the reviewer in the *British Medical Journal*, Dr. GIACCHI gives a modest, and apparently a very conscientious, account of diphtheria in a country district—the agreeable hills which neighbor on the Arno in the early part of its course. A pure balsamic air distinguishes the country, with a large growth of fir tree and beech; no mephitic or marshy exhalation extends over it. But even here diphtheria rages epidemically. The robust peasantry are victims to it equally with the inhabitants of towns. In the many cases, however, seen by Dr. Giacchi, not once did paralysis ensue. Dr. Giacchi considers the

affection as primarily local, and allows its essentially parasitic constitution; distinguishes it from specific fevers; considers the paralysis to be a neurosis, and the albuminuria to result from parasitic infiltration. As prophylactic, he relies on the sulphites; but these have disappointed him in the promise of cure. Quinine, wines throughout the disorder; locally, phenic acid, a drachm in six ounces of water, with a little alcohol, applied by means of a camel's hair brush, and atomized lime water, constitute the treatment recommended. Other caustics (even muriatic acid) he has found rather to torment than permanently to relieve.

CROUP.

(1.) Embolism in. MM. Bouchut et Labodie. *Bulletin de l'Académie des Sciences—Archives Générales*, Sept., 1872.

(2.) A Lecture on. Robert R. C. Jordan, M.D. *Medical Times and Gazette*, vol. ii., 1872, pp. 223 and 322. [Nothing new.]

(3.) Histologie des Croups und der Diphtheritis. Steudener: Boldyrew. *Centralblatt für die Medicinische Wissenschaften*, Sept. 28, 1872.

(4.) Zur Therapie des Croup. Leonpacher. (Traunstein.) (*Ärztliches Intelligenz Blatt*, No. 40, 1872.) (*Allgemeine Medicinische Central-Zeitung*, Oct. 9, 1872.)

(1.) MM. BOUCHUT et LABODIE-LAGRAVE say that, while the primitive lesions of croup and diphtheria are well known, the cardiac lesions have not yet been described; that there is almost always (in fourteen cases out of fifteen) an endocarditis, which is frequently the origin of emboli, which, with their consequences, are frequently found in the lungs and other organs and tissues; hence the new lesions to be studied in croup and diphtheria are—endocarditis, embolism, thrombosis and acute leucocytosis.

(4.) LEONPACHER reports two cases of "laryngitis crouposa," which got well under the use of the inhalation recommended by Schütz—R. Brom. p., potassii brom., 55 gr. v., aquæ dest., ℥v.—a sponge to be moistened with this solution and put into a large glass, which is held under the mouth and nose of the patient for ten minutes in every hour. Leonpacher says that he employs the term "laryngitis crouposa" "because, in practice, a diphtheritic inflammation of the larynx cannot certainly be distinguished from genuine croupous laryngitis. Those physicians to whom the gray patch on the tonsils suffices as a means of distinction, will consider the affection (in these two cases) as diphtheritic laryngitis." In regard to the inhalation, Leonpacher concludes that only the bromine is efficient, as the potash solution is not volatilized in the ordinary temperature of a room. The diphtheritic membrane was almost completely dissolved in the bromo-bromide of potash solution left over night, at least was very finely divided, although the color and smell of the solution showed volatilization of the bromine. Therefore, a method by means of which both the bromine and bromide of potash could work efficiently, as by atomization of the bromo-bromide of potash solution, promises still more certain success. Leonpacher believes that his two cases show good effect from bromine vapor by itself, but says that this effect does not seem to depend upon a solution of the membrane, but in an attack on the connection between the mucous membrane and the diphtheritic membrane, as the adhesive, tough surface of the latter disappears under bromine.

Leonpacher tried experiments of the effect of different solutions on the membrane coughed up. Lime water dissolved it in *fifteen minutes*. The bromo-bromide of potash solution dissolved it in thirty minutes, but not so thoroughly as the lime water. The vapor of bromine made it at first swell, then shrink up, and become dry and hard.

The slow development of the effect of the bromide of potash solution makes a long-continued application of this remedy necessary.

TRACHEOTOMY.

(1.) Beiträge zu den Anomalien des Gefäßverlaufes bei der Laryngo- und Tracheotomie nebst Angabe einer Modification der Trachealkanüle. *Wiener Medicinische Presse*, June 2 and 9, 1872. Hofmohl.

(2.) Case of Tracheotomy, in which the Tube, having become detached from its shield, escaped into the Trachea, and was removed by a second operation fourteen months afterwards. John W. Ogle, F.R.C.P., and Henry Lee, F.R.C.S. *Medical Times and Gazette*, Sept. 21, 1872.

(3.) Die erste Tracheotomie mittelst der Galvano kaustik in Deutschland, wegen einer die Glottis von unten verschlissenden Neubildung. Von. Prof. R. Voltolini. *Berliner Klinische Wochenschrift*, Oct. 7, 1872.

(4.) Scald of the Glottis in a Child seventeen Months old; Tracheotomy; Recovery. Ferguson. *Lancet*, July 20, 1872.

(5.) Twelve Cases of Tracheotomy, with Remarks. M. E. Dudon. *Lancet*, July 20, 1872. [Six cases successful; remarks in favor of an early operation.]

(6.) Clinical Lecture on Tracheotomy in Cases of Chronic Laryngeal Disease. By Eben Watson, M.A., M.D. *Lancet*, August 3, 1872.

(7.) Zur Technik der Tracheotomie. H. Bose. *Centralblatt für die Medicinische Wissenschaften*, Oct. 5, 1872, from *Archiv für Klinische Chirurgie*, xiv., 137-147.

(8.) Die Tracheotomie mittelst der Galvanokaustik. P. Bruns. *Berliner Klinische Wochenschrift*, Dec. 30, 1872.

(9.) Tracheotomie bei Diphtheritis. Von Dr. Max Bartels. *Jahrbuch für Kinderheilkunde*, N. F. V. Jahrgang, 4 Heft, 1872.

(10.) Tracheotomy performed a second time on the same individual (adult, with syphilitic laryngitis). Stokes. *Records of Operative Surgery. Dublin Journal of Medical Science*, December, 1872.

(11.) Remarks on Tracheotomy. By Llewelyn M. Thomas. *Lancet*, Sept. 28, 1872.

(1.) Dr. Hofmohl, in order to facilitate the introduction of the canula, proposes to introduce at first, an inner tube, with a closed wedge-shaped extremity, a little rounded front and back, and provided with two small openings, so that the passage of air through the tube by means of these may signify when the instrument is really in the trachea, which is often difficult to ascertain when one uses a catheter or any solid staff for this purpose; immediately the canula is in the trachea, the wedge-shaped tube is withdrawn and the common inner tube introduced.

(3.) Voltolini has performed tracheotomy on a man, thirty-six years of age, by means of the galvano-caustic knife. The patient had berry-like growths obstructing the larynx below the vocal cords. The knife

went through the soft parts as it would go through butter. The opening into the larynx was made at the crico-thyroid membrane, and extended downwards. There was scarcely any bleeding, except from one vein, to which, after the operation, it was necessary to apply tannin powder. The operation on the growths was postponed, on account of the condition of the patient (not the result of the mode of operating).

On the fourteenth day after the operation, on examination with the laryngoscope, the growths were not to be found, with the exception of a small excrescence under the right vocal cord. This is explained by Voltolini on the supposition that the growth was injured in the operation and sloughed away. Chloroform was commenced, but was not continued through the operation, on account of suspension of the respiration under it. The patient repeatedly said he had felt no pain from the operation; but curiously, when the blunt hooks were introduced to draw aside the edges of the wound, said they burned.

(7.) Dr. Bosc says, that while tracheotomy under the thyroid gland is only of value in case of tracheal obstruction on account of the deep position of the trachea and the vessels occurring here both normally and abnormally, crico-tracheotomy also has its disadvantages; one frequently finds the larynx obstructed at the place of incision, and the canula is easily thrown out by the elasticity of the segments of the cricoid; and, besides, one has almost always to divide, also, one or several tracheal rings. He thinks the division of the upper rings of the trachea indisputably the best method of performing tracheotomy, if one could succeed in every case in drawing down the isthmus of the thyroid gland without bleeding or any hazard. A consideration of the anatomical relations shows that the so-called middle fascia of the neck is divided, under the thyroid gland, into two layers, which enclose this gland, uniting again at its upper border. All the vessels running in the isthmus of the gland lie inside of this fascia-capsule; the posterior layer of this sticks fast to the gland and the trachea, but can easily be separated from the trachea when one once gets behind it. This is most easily done at the top of the cricoid cartilage, where the fascia adheres more loosely; and here one is just above the fascia-capsule, and this, with the vessels and gland, can be separated from the trachea and drawn down, so that the tracheal rings are completely exposed. In nineteen out of thirty cases operated on by the author, an incision was made upon the cricoid, and a director pushed behind the fascia; without bleeding, and with the greatest ease, the thyroid gland could be separated and drawn down, even where there was hypertrophy of the isthmus.

(8.) Dr. P. BRUNS, referring to Voltolini's operation of tracheotomy by the galvano-caustic knife (see 3, above), says that it was not the first in Germany, nor the second in the world, as claimed by Voltolini; but that the first two were performed in Tübingen, in his father's clinic, the third by Amussat, the fourth by Verneuil, and the *fifth* by Voltolini, but gives him the credit of being the first in *Breslau*!

Dr. Bruns says, moreover, regarding the operation, that it offers no advantage, for the reason that one cannot see, and so avoid or push aside the vessels lying in the way, and that even the employment of feeble red heat does not prevent bleeding from vessels of more than one to two millimetres in diameter which have been wounded. He speaks not

only from experience in the use of galvano-caustic in general, but in one of the cases of tracheotomy at Tübingen such hæmorrhage took place that the operation was suspended, and continued with the forceps and director. So that galvano-caustic tracheotomy fails entirely in the particular for which it would be preferred. These remarks apply only to the knife. Bruns admits that Amussat's method of using a galvano-caustic wire loop, which is slowly tightened, does prevent hæmorrhage, but the inconveniences and difficulties of its use do not require explanation.

(9.) Dr. BARTELS reports 330 cases of tracheotomy in diphtheria, performed in the Bethaien Hospital at Berlin, fifty-eight by himself. The list includes ninety-nine of the one hundred published by Güterbock in 1867, one being omitted on account of being an adult; and it being the author's purpose to consider the operation only in children, only those under 16 years are considered. Of 330 patients, 103 were cured, 31 $\frac{1}{2}$ per cent. The recoveries were much more frequent among the boys, 36 $\frac{3}{4}$ per cent., while among the girls the percentage was only 24 $\frac{3}{4}$. This fact Bartels does not attempt to account for.

The operation was performed six times on children under two years of age. All fatal.

In the third year, the operation was done fifty-one times, eight and a half times as many as in the first two years together. Then the number of operations increases till the fifth year, and reaches here the highest figures (74). To the eighth year the number diminishes, at first gradually, then more rapidly. In the ninth and tenth years the operation occurred only very seldom (eight and five times respectively); from the eleventh to the fourteenth only in exceptional cases. Between fourteen and fifteen, not at all.

As in the first two years of life, so did the operation in the period from eleven to fourteen, give very unsatisfactory results. Of six cases, all were fatal.

The most cures were in the ninth and tenth years, viz., five out of eight, and three out of five patients respectively.

The greatest number of operations, both in boys and girls, was from the third to the eighth year; 305 out of the 330 come in this period, with 95 cures.

It was noticed, during the epidemic of 1869, that the patients were usually brought to the hospital, for tracheotomy, on the clear, sunny days immediately following dull, rainy weather.

In regard to after-treatment, Dr. Bartels is convinced that steam and warm, moist applications can be dispensed with in most cases, and that local treatment of the diphtheritic places in the throat is not necessary. The tube was removed in from five to eight days. In a part of the cases, Dr. Bartels considers that he had an *indication for the removal of the tube*, in a little rise in temperature, and a little acceleration of the respiration, which he attributed to the irritation of it. With reference to prognosis, Bartels thinks that a pulse of more than 152, when several hours have passed after the operation, is almost absolutely unfavorable; yet he had one case, of a boy two and a half years old, where the pulse for several days was 150-164, and who, nevertheless, recovered. The higher the temperature, the more doubtful must be the prognosis. Of six children who died within twenty-four hours after the operation, there had been a temperature of 40° C.

(104° F.), and in the three others death ensued so quickly that the temperature was not taken. The prognosis is unfavorable if the respirations are more than sixty in the minute; in one case, however, of a child who afterwards got well, the respirations were sixty-eight the day after the operation; in the cases which pursue a favorable course, the respirations are usually twenty to forty in the minute. An increase in the number of respirations, after they have become less frequent, should make one suspicious, especially of pneumonia, which is usually fatal in these cases.

Reports of Medical Societies.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.

The annual meeting was held at North Cambridge, April 16th, 1873. The list of officers elected for the present year has already been published in the JOURNAL.

Dr. Marcy, of Cambridge, read a statistical paper upon the influence of hygienic conditions upon the mortality in our cities. For the purpose of comparing different sections of Cambridge, he had examined over 4000 original physicians' certificates of death, embracing a period of five years. Comparison shows that the difference in mortality in different localities in Cambridge is nearly equal to that calculated by Dr. E. H. Clarke, a few years ago, between the Beacon Hill and Broad Street districts in Boston. Some discussion followed the paper, which will soon be offered to the JOURNAL.

Dr. F. L. Thayer, of West Newton, read the annual address; subject, the History of Smallpox and Vaccination. He argued, from statistics: (1st), that during the practice of inoculation, the number of epidemics was increased, but their virulence diminished; (2d), that since the introduction of vaccination the number and the severity of epidemics has greatly diminished; and (3d), that equally favorable results have followed the introduction of re-vaccination.

The severity of recent epidemics is accounted for by the increased feeling of security on the part of the public, and a consequent carelessness in methods of vaccination.

In a few cases, vaccination does not succeed. This does not prove an exemption from the disease, and hope of ultimate success should not be given up. The occasional cases of erysipelas and pyæmia after vaccination, are more fairly to be charged to some constitutional condition than to the virus.

The number of vesicles is a measure of the amount of protective influence. Animal virus is more marked in its effects than humanized, but less sure to take. There is not sufficient evidence that humanized lymph deteriorates by transmission.

Dr. Renton inquired if the President had met with ill effects upon infants from narcotics administered to nursing mothers.

Dr. Wyman said that he did not recall any cases of injury from this cause, but that he always bore the possibility in mind in prescribing.

Dr. Vaughan, of Cambridge, had recently met with a case in which a child of three months, in an intelligent family, was narcotized to an alarming extent by less than nine drops of Magendie's solution of

morphia, taken in divided doses. The first dose was taken at 10, P.M., just after nursing, and the second at 5½, A.M. The child nursed at 3½, A.M., and again at 7½. The first effects were noticed at about 8½, the child becoming stupid and sleepy, but this condition passed off. At 3½, the child nursed again, and within ten minutes was in a state of narcotism. It was 4½, A.M., before the child could be safely allowed to sleep undisturbed. The mother felt no effects from the morphia.

Dr. Willis, of Waltham, had seen a case of narcotism in an infant, following hypodermic use of morphia by the nursing mother.

Dr. G. J. Townsend spoke of the recent death of Dr. G. C. Lincoln, of Natick. Dr. Lincoln's health was not very good, especially in early life. He was always subject to headaches. He was at one time connected with the McLean Asylum as supervisor. He was an unusually able and acute practitioner, his most marked traits being accuracy and perfect honesty.

A few months before his death, he took a vacation of some weeks, on account of headaches and debility, returning apparently well. Headaches soon returned, and he consulted, at different times, Dr. E. H. Clarke and Dr. Ellis. The retina was also examined by Dr. Williams. Nothing was found indicating cerebral disease. After a course of bromide of potassium, he complained only of general soreness of the head, without marked headache. He drove to Wellesley, about three miles. Noticed, on the way, that the right hand was losing its power. Was found standing by his sleigh, the shafts of which were broken. He was confused, but conscious. Hemiplegia increased, and soon became nearly complete.

When seen by Dr. Townsend, his mind was clear, but complete aphasia existed. Became comatose within forty-eight hours, and soon passed away. No autopsy.

Dr. Townsend was appointed to draft resolutions in memory of Dr. Lincoln, and reported the following:—

"Whereas, By a dispensation of Divine Providence, Dr. George C. Lincoln has been stricken from the roll of the living:

"Resolved, That this Society deplore the loss, by his death, of a much respected fellow-laborer, a true, honest and faithful practitioner, an honor to his profession;

"That we have no empty words of condolence to offer her who has lost a devoted husband, her chief earthly prop. The Rod and Staff upon which he leaned in life, and which triumphantly conducted him through the valley of the shadow of death, will afford her priceless support and consolation;

"That we deeply sympathize with the community in which he lived, in being thus suddenly deprived of a most trusty physician, a highly valued and beloved fellow-citizen;

"That these resolutions be entered upon the records of the Society, and a copy sent to the family of the deceased."

Dr. Hildreth, of Cambridge, showed the skull of Abijah Ellis, who was murdered in December last. There are two extensive stellate fractures—one over the vertex, and the other near the posterior corner of left parietal bone. These are connected by a longitudinal line. The anterior fracture sends off two lines of fracture besides the longitudinal one: one downwards, across the right parietal and temporal

bones, past the meatus auditorius; the second forward, through frontal and nasal bones and orbit; a third line leaves the longitudinal line not far from the posterior fracture, passing through left parietal and temporal bones, behind zygomatic arch. These three descending lines very nearly meet at base of skull. There is not much depression. At the autopsy, four scalp wounds were found. The chief, and probably the first inflicted, was over the occipital bone, nearly two inches to the right of the stellate fracture. There was a large clot in the line of fracture descending on the left side, from a ruptured meningeal artery. The membranes were congested. No other clot found. No blood at base of brain.

The President read an account of a case of painful subcutaneous tumor, or tuberculum dolorosum.

In February, 1873, a woman, aged 23, came to him with severe pain about the middle and just outside of right tibia, of two or three years' standing; much more severe during past year. Attacks were like flushes, extending generally upward, lasting from a few minutes to one or two hours. No cause named, unless fatigue. There was slight discoloration of the skin, as large as a pin's head. Bloodvessels of skin not enlarged. On pressure, a body of size of a bean was felt, rolling under the fingers seemingly in the cellular tissue, and attached by a small point to the skin; not tender, except when pain was severe. Tumor was removed, with the attached piece of skin. No pain since. Tumor was as large as a bean, firm, imbedded in cellular tissue; connected with capsule, but otherwise free. Being cut open, a white surface was presented, of cartilaginous hardness, without bloodvessels. No nerve cells were found with a moderate magnifying power.

The first and best general description is given by Wm. Wood, in *Edinburgh Medical and Surgical Journal*, in 1812; it also received its name from him. Dr. J. C. Warren, the elder [Surgical Observations on Tumors, p. 59], describes three cases; in two, removal was not allowed. In the third, a man had suffered seven years, and for four, very severely, from pain about three inches below knee. When seen by Dr. Warren, there was an open ulcer, following use of caustics; physical condition bad, with cough, purulent expectoration, quick pulse, emaciation, &c. Amputation was performed, and patient recovered in three months.

These tumors occur in adults; and in women, rather than men, in proportion of four to one. Paget [Surgical Pathology, 2d American Edition, p. 393] says, "They may be formed either of fibro-cellular or fibrous tissue, in either a rudimental or a perfect state," or "they may be fibro-cartilage."

Wedl [Pathological Histology, p. 401] found "a new formation of connective tissue which, at any rate for the most part, retained an embryonic character." "Not a trace of nerve substance could be discovered in the interior of the nodule." Billroth found muscle cells, but no nerves; Bärensprung, peculiar knots upon the bloodvessels around tumor. Paget thinks they are not neuromata, because nerve fibres cannot be demonstrated in them; because neuromata are often multiple, are unlimited in size, and are most frequent in the male sex; these occur singly, are smaller in size, and more frequent in women.

Some observers consider these tumors to be developments of the Pacinian bodies.

Virchow [Die Krankhaften Geschürelste, vol. iii. p. 241] says that he has seen one removed from the knuckle, which a nerve entered and left, and the mass was made up of obscure nerve fibres. He adds, that most pathologists of the present day would call such tissue briefly fibroid, fibro-plastic, or fibro-nuclear, and thinks that we need more and more exact observations.

There is a point worth noticing. Cartilage is not known to have nerves; it is not sensitive; when inflamed, it is extremely sensitive, but even then it has no nerves, as far as is known. Has not cartilage assumed new functions? In painful subcutaneous tumors, has not connective tissue similarly assumed new functions?

Dr. Norris, of East Cambridge, showed photographs of a case of ectopia cordis, which was described in the JOURNAL.

Boston Medical and Surgical Journal.

BOSTON: THURSDAY, MAY 22, 1873.

THE TRIAL.

It appears that the action of the Massachusetts Medical Society, in maintaining its internal discipline and in executing its by-laws, has excited considerable interest beyond the limits of the association itself. It might be thought that the Society had the privilege of managing its private matters in its own way, and that it was not under a necessity to publish the details of its doings, if good reasons for privacy existed. But, thanks to an independent and enterprising journalism which is bound to publish news, no matter how surreptitiously obtained, and thanks especially to the homœopathic gentlemen who have indulgently supplied the excluded reporters with items in answer to their re-iterated calls, the discriminating public has been served with what the newspapers have called "*full reports of the proceedings.*" Those who cared to do so have read in these reports the ingenious and plausible homœopathic statements which were meant to be so well adapted to strike the popular judgment effectively; and if, through special zeal, some of the arguments appeared in print before they were spoken, the enterprise was all the greater.

But the public must remember that it has been indulged with only one side of the case; it is not yet in possession of the clear, positive statement of the *facts* which Dr. Hodgdon enunciated in behalf of the committee of accusation; and as the public is not called upon to decide this matter any more than it would be to decide a question of irregular membership in a typographical society, for example, it is not probable that Dr. Hodgdon's argument will appear in print. It was

meant for the ears and the understanding of the Board and for such members of the Society interested as chose to attend, and for nobody else.

We are aware that the subject is of more than local medical interest, inasmuch as the result will be deemed a precedent; and we can understand that some degree of curiosity exists in other places regarding the decision of the court. When that decision shall have been promulgated it will be seen, we believe, that the question at issue has rested on facts and not on opinions, and that the verdict is accordingly.

The following Editorial on the "Boston Difficulty," which we quote from the Philadelphia *Medical Times* of the 10th inst., shows how the subject, in all its lights, is regarded at a distance from the scene of action.

"From very vague items in the daily papers, our readers have doubtless become aware that certain members of the Massachusetts Medical Society are on trial, charged with practising homœopathy. Exactly what is being done we have been unable to learn by study of the secular papers of Boston; but we believe a court medical is in session, unfortunately with closed doors. This matter is one of no ordinary moment, and it is to be hoped that those having it in charge will proceed with the utmost prudence and judgment. The question, we take it, is as to the right of the adherents of any exclusive dogma to demand the privilege of entrance or of continued membership in a society composed of practitioners of scientific medicine, and their power to compel their admission to such privileges.

"If an association such as the Massachusetts Medical Society has the right to frame its own laws, it certainly has the right to decide as to the qualification for membership. If those conditions are infringed by any of its members, it as certainly has the right to expel the offending persons. Should this be denied them, the sooner they dissolve their organization and form a new one, the better.

"The fact is that the bigotry and narrow-mindedness are not on the side of the so-called 'regular profession,' but with those who would exclude, if they could, all practice not based on their own notion. But if it is true that '*similia similibus curantur*,' it must be so in all cases, simple or complex, slight or desperate. That this law is not of universal application, or at least cannot be always appealed to by its adherents, is abundantly proved by their own published records. And yet they, hugging their dogma with one hand, and with the other continually gathering experience from 'allopaths,' who 'bleed, blister, leech, and purge their patients to death' (see any number of any homœopathic journal), cry aloud for recognition as brethren from these 'old fogies' and 'conservatives.'

"The points in regard to which prudence and caution are especially called for in the conduct of this matter are, the clear showing of the exact difference between honest homœopathy and honestly scientific practice, and of the reasons why the two cannot be made to harmonize, or even to work side by side in any medical organization. There must be no martyring of the dogmatists, no shirking of any of their arguments, no stifling of any claims they can sustain. We hope, and are willing to believe, that the business is in safe hands."

FLOWERS AND FEVER.—The *British Medical Journal*, March 29th, 1873, notices the researches of Mantegazza relative to the development of ozone in some plants, and of Meissner and others regarding the production of certain antiseptic gases during the formation of cloud and smoke.

"It appears from the researches of Prof. Paolo Mantegazza, of Pavia, that, in some plants, ozone is developed by the direct rays of the sun, whilst in others the action, once commenced in solar light, continues in darkness; thus cherry-laurel, clove, lavender, &c., are plants which develop ozone largely on exposure to the sun's rays; so, also, do the narcissus, heliotrope, hyacinth and mignonette, as well as some perfumes, similarly exposed, as eau-de-cologne, oil of bergamot, extract of millefeurs, essence of lavender, and some aromatic tinctures. He further points out that the oxidation of the essential oils, such as nutmeg, aniseed, thyme, &c., under the influence of light and air, is a convenient source of ozone, as they, even in small quantities, ozonize much of the atmospheric oxygen. He concludes that the ozonogenic properties of flowers reside in their essences, the most odoriferous yielding the largest amount of ozone. He therefore recommends the cultivation of herbs and odorous flowers in marshy districts and in places infested with animal emanations, and that persons living in such situations should perfume themselves with odoriferous essences."

Dr. Cornelius Fox, in his recent work on ozone, states that the cultivation of the sunflower in malarious districts has been urged, as it is said to possess the property of purifying air laden with marsh miasm, and of exhaling ozonized oxygen.

Hippocrates is reported to have extinguished the plague at Athens and elsewhere by kindling fires, and it is well known that he had great faith in fumigations. Fumigations with aromatics, and purifications by means of fires of odoriferous woods, were highly valued in the epidemics of the middle ages.

"The experiments of Meissner and others relative to the formation of certain antiseptic gases during the formation of cloud and smoke, deserve more than a passing comment. The modern chemical inquiry certainly appears pertinent to the solution of the ancient practice, and may be destined to explain why, for many centuries, it has retained a firm hold on the minds of the wisest of our profession.

"The popular notion that a pinch of snuff is a preventive against infection is scoffed at, not for any real reason, but simply because it is popular, therefore a vulgar error, but Dr. J. C. Murray, in his amusing and interesting work on 'Snuff-taking,' regards it as a disinfectant, for the aroma of powdered tobacco develops ozone. We must remember that this takes place after the plant has undergone a process of fermentation previous to its being manufactured into snuff. Meissner asserts that antozone is the cause of the cloud tobacco-smoke, the smoke of chimneys, and of gunpowder. The copious rains, says Dr. Cornelius Fox, which follow great battles, have been supposed to be due to some extent to this body, the decomposition of the cloud of antozone, water being either a cause or effect of the electrical excitement of the air. We have much to learn with regard to electricity, and the important part it plays in the production of ozone, both on sea and on land; we have, also, yet much to stimulate us to the investigation of this wonderful agent for the purposes of disinfecting water and food, as prac-

tised by the late lamented electrician, Andrew Crosse, who, by a mode of electrization of great simplicity, not only purified water, but rendered it antiseptic, so that it had the power of restoring the most putrid substances to sweetness.

"Although we have apparently wandered from our original subject, the perfume of flowers and their antiseptic power against fevers, yet the reader will acknowledge that both the fumes from burning wood and the galvanic contrivance to purify water are linked with it by means of electricity, whether developed during the vital process of vegetation, the chemical action of fire on wood, or that of water on two metal cylinders, differing in their oxidizable properties.

"To return, however, to flowers and sweet-smelling herbs, we find Dr. Mantegazza urging the propriety not only of planting herbs having powerful odoriferous properties, but others, like the sunflower, which, although possessing no particular perfume, are said to have extraordinary ozonigenous power.

"If there be protective virtue in the sweetest living gems of the earth, let their culture be in every direction encouraged; let the garden-plot, near the cottage of the agricultural laborer, be filled with every simple herb or flower, that like the mignonette, thyme, laurel, sunflower and lavender, sheds its purifying odors around; let the window-gardening be more than ever a favorite relaxation for the mewed-up artisan of the town and city. Let experiments be made on all kinds of the poor cottager's present pets; let us see what ozonigenous powers his favorites have, for instance, the scarlet 'Tom Thumb' geranium, at once so gay and cheering.

"In our cities, let us emulate the citizens of Laurentum, and plant sweet bay along our embankments, in our parks and gardens, and even in our deserted churchyards and our fast-filling cemeteries. Let us, however, in the meanwhile, follow up the footstep of nature in our chemical laboratories, and learn how to increase the store of our natural air- and water-purifiers by a patient investigation of the properties of our indigenous flora in their relation to malarious emanations."

RESUSCITATION OF A NEW-BORN INFANT AFTER NEARLY FOUR HOURS OF ARTIFICIAL RESPIRATION.—This instructive case is reported by Dr. John J. Marshall in the *Medical Press and Circular*. Upon being called to the mother, the right arm and funis was found to be presenting, and, after a short delay, "turning" was resorted to and delivery effected. The child, when born, was apparently lifeless, so that the funis was divided, without ligature, to see if any blood issued from the cord, and the child never cried; while slapping, cold water sprinkling, and brandy application failed to elicit any indications of life. When the child was placed on the table and in the light, faint pulsations of the heart were noticed, which led to attempts at artificial respiration. The method in which respiration was maintained is well described. The infant having been laid upon his back and rolled in a warm blanket, was so placed that the head extended over the edge of the table, and was allowed to droop a little, to prevent the air passing into the stomach. The face was next covered with a towel, and the little nostrils having been compressed with the left thumb and forefinger of the operator (his right supporting the head), air was regu-

larly and forcibly breathed into the lungs, and again expelled from them by an assistant pressing alternately with his two palms on the chest, which was also vigorously rubbed with brandy.

This treatment, *after an hour's* steady prosecution, the heart's action in the meanwhile being almost imperceptible, was rewarded with one voluntary inspiration. The artificial respiration was patiently persisted in, and at the end of another half-hour, a second single gasp was given. Hot baths and the treatment recommended by Sylvester and Marshall Hall were next tried, until, at last, the child began to breathe regularly at the rate of fifteen respirations per minute, this being at the expiration of nearly four hours after birth.

Dr. Marshall concludes with the observation that, out of all the methods of resuscitation employed in this case, the breathing and expulsion of warm air appeared to have the most beneficial effect on the infant, and especially when the mouth to mouth breathing was combined with the raising and depressing the arms.

The result of this case should encourage the practitioner not to regard as hopeless the condition of those infants who may be born in a state of defective vitality, asphyxia or apoplexy; for if our efforts at resuscitation are only persistently maintained, we may often succeed, even after the expiration of hours, in restoring the child to life.

THE BLOOD IN RELAPSING FEVER.—According to the observations of Obermeier (*Medical Times and Gazette*, March 29th, 1873), the blood of persons laboring under relapsing fever contains peculiar filiform bodies, which exhibit very active spontaneous movements. A drop of blood extracted from such a patient, and mounted, as usual, with the necessary precautions, presents these bodies among the corpuscles when magnifying powers of 400 to 900 are employed. They appear as extremely delicate threads of the thickness of a fibrous filament, and of the great length of one and a half to six times the diameter of a red blood-corpuscle or more. Several of the bodies may be seen on the field at once; and so long as the preparation is fresh, they exhibit active movements—not only changes of form, moving and alternately coiling and uncoiling, but also changes of locality, by which they slowly or suddenly escape from the field of view. Altogether, the movements remind one of spermatozoa. Hitherto, Obermeier has found these filaments during the fever only, and shortly before or during the crisis—not in the interval. Sometimes they are to be seen one day, and not the next. He could not find similar bodies in the blood of healthy persons, or of persons suffering from other diseases. Of their nature, he will not yet give a decided opinion.

INJURY OF THE SPINAL CORD, OCCURRING THROUGH THE MOUTH.—At a recent meeting of the "Surgical Society of Ireland," Mr. H. G. Croley gave the history of an extraordinary injury of the spinal cord. It appears that a boy, eight years old, was engaged in playing with the steel rib of an umbrella, and that, while holding the rib in his mouth, he fell from a bed to the floor in such a manner as to drive the steel point through the back of the pharynx. The steel was drawn out by the child himself. The immediate results of the injury appear to have

been a slight hæmorrhage, accompanied by nausea; during the night, the child was delirious, and, upon the next day, he was observed to have double vision. The symptoms getting no better, on the third day after the injury, the boy was brought to the hospital, when he was for the first time seen by Mr. Croly. Upon examining the throat, a punctured wound was noticed at the back of the pharynx, on a level with a probe passed back under the velum without raising it. On being put on his legs, the child tottered. He had convergent strabismus, some intolerance of light, and very marked febrile disturbance. It was concluded, from these symptoms, that the rib of the umbrella had penetrated to the spinal cord, between the first and second cervical vertebræ. The treatment consisted in the application of leeches to each side of the spine, and ice to the shaven head, and the administration of calomel and James's powders. There was a difficulty in swallowing; the temperature ran up to 102° and 105°; the child whistled, screeched, had the knitted brow, and threw back his head. These symptoms were for a time quite alarming, but the boy made a good recovery.

Mr. Stokes, tried, in the dissecting room, the effect of passing in a sharp piece of wire at a place in the dead subject corresponding with the wound in the child's throat, and, upon subsequently removing the spinous processes and the laminae, he found the wire had pierced the spinal cord between the first and second vertebræ.—*Medical Press and Circular*, March 19, 1873.

CASE OF RENAL ABSCESS, WITH CONTAINED CALCULUS, SUCCESSFULLY RELIEVED BY OPERATION.—This rare case is reported by Mr. Thomas Annandale, in the *Edinburgh Medical Journal*. The patient, a farmer, aged sixty-three, had been suffering for several weeks from gastric and renal derangement, the symptoms increasing in severity, and finally pointing pretty clearly to some affection of the right kidney. The first examination determined that there was tenderness on pressure over the lower half of the right kidney, and below it in the direction of the ureter. A very slight fulness in the same region was noted, but no marked swelling could be detected. No fluctuation could be felt, and the introduction of a fine trocar in the lumbar region gave no result.

At the expiration of nearly a month, he was seen for a second time by Mr. Annandale, and upon this occasion his symptoms were very much worse. It was now thought that deep fluctuation could be detected through the anterior abdominal wall, just below the region of the affected kidney, and, in accordance with the urgent request of the patient, it was decided to try and do something for his relief, and make at least an exploratory incision. The incision was made through the abdominal wall, in the situation and direction of the incision employed for the ligature of the common iliac artery. Pushing aside the peritoneum and abdominal contents, the psoas muscle was reached with the finger; by the inner side of this muscle an abscess was detected, and within this abscess-cavity was found a calculus, the size of a horse-bean, which was seized with the forceps and removed.

The operation gave great relief, and the patient improved steadily up to the fifth day, when a small quantity of thin, feculent matter

passed the wound, and faecal matter continued to pass the wound for nine days after the operation, from which time no further discharge was observed. By the end of a month, the patient had apparently made a good recovery.

In commenting upon this case, Mr. Annandale remarks that the whole trouble had its origin in a renal calculus, which had given rise to supuration and ulceration, and in this way escaped from the kidney. The abscess, passing downwards, was preparing to empty itself into the ascending colon or caecum; in fact, a small opening of communication with the intestine had already been made, and the further destruction of the intestinal wall was only prevented by the free escape of pus. The result of this case affords additional encouragement to surgeons to operate early in cases of abdominal or pelvic abscess, in which the timely use of the knife may relieve suffering, and even save life.

FLUID ADHESIVE PLASTER.—The following formula for emplastrum adhaesivum fluidum, given by Mr. Enz, of Sembach, offers some interesting features:—Take of dammar resin, finely powdered, 560 parts; oil of almonds, 142 parts; castor oil, 70 parts; best glycerine, 10 parts; melt till the mass flows smoothly, and, when half cold, add, by degrees, 225 to 240 parts of spirit ether, in which aniline, free from arsenic, or any other coloring matter, has been dissolved. The plaster thus obtained is of the consistence of a balsam. The dammar resin is easily soluble in fat oils; by the addition of the spirit of ether, it is partly precipitated, but in a very finely divided, doughy state. Dammaryl and hydrate of dammaryl are not soluble in alcohol, and impart to the mixture an extraordinary sticking power. This plaster can be directly applied to wounds, and then dressed with cotton or linen, or spread thereon by means of a brush. What renders this plaster especially useful is its easy miscibility with other ingredients; for example, acidum carbolicum purum, hydrarg. chlorid. corrosiv., morphia and its salts, iodide of potassium, which are all soluble in alcohol; further, with powdered cantharides, belladonna, hemlock, &c.—*Medical and Surgical Reporter.*

OLD CLOTHES.—The danger of standing in other men's shoes, or of wearing their cast-off habiliments, is sometimes overlooked. M. Chevallier relates, in the *Journal de Chimie Médicale*, Jan., 1873, that a young man of good family died in December last, because, instead of buying new gloves, he bought a pair of cleaned gloves. Either from the cleaning having left a poisonous substance inside the gloves, or from some venomous insect lodged there, he felt presently a sharp pain in an abrasion which he had on the thumb. He bore it for a while, but at the end of half an hour he was obliged to tear the gloves off. His hand was swollen, and the spot was black. Gangrene followed, and death. The story reminds one of some of the well vouched histories of the effects of the bite of the juniper-fly in China, or of cases of the charbon or malignant pustule which are due to infection. M. Chevallier mentions another case, in which a second-hand pair of pantaloons conveyed skin-disease; and recent prosecutions for selling the clothes of smallpox patients suggest still more serious possibilities.—*Brit. Med. Jour.*

Medical Miscellany.

THE bitter taste of quinine, colocynth, aloes, quassia, and of other bitter medicines, may almost instantaneously be removed by chewing a small piece of liquorice root, says *La Tribune Médicale*.

BARON ADOLPH DE ROTHSCHILD has founded and endowed a hospital for diseases of the eye at Geneva, at an expense of £20,000, which is wholly borne by himself.—*British Medical Journal*.

CEREBRO-SPINAL MENINGITIS.—Prof. Loomis, of New York, who has had considerable experience in the treatment of this affection, gives the following:—Sol. saturat. potass. bromid., forty minims every two or three hours; quiniæ sulph., three to five grains every three hours; ice to the head and spine; blisters to the nape of the neck; bleeding, when the constitution of the patient will admit of it, and tonics during convalescence.

THE INTERNATIONAL EXHIBITION IN VIENNA.—A system of sanitary service is organized in Vienna, for the purpose of giving immediate attention to accidents, and carrying out measures of public hygiene, during the International Exhibition. There will be five stations, at each of which physicians will attend daily in turn; and at each will be provided dispensaries, together with a military carriage, for the transport of persons severely injured. At the central station there will be a small hospital for the temporary reception of patients while waiting for the means of conveyance.—*London Medical Record*.

SCIATICA.—Some cases of this disease which had resisted a variety of treatment, were cured at Bellevue Hospital, almost at once, by the hypodermic injection of morphia over the seat of pain, plunging the needle deep into the tissues, perhaps to the depth of one or one and a half inches.—*N. Y. Medical Record*.

POISONING BY COLORED SOCKS.—At a meeting of the Bombay Medical and Physical Society, the particulars of a case of poisoning by colored socks was read. A physician was applied to by an officer in respect to an obstinate eczematous eruption on the legs. On inquiry, it was found that the officer had lately worn socks of a bright red color. Suspecting the nature of the case, the physician recommended simple treatment and the disuse of the socks. A cure was soon effected. The socks were analyzed by a chemist, who reported that he readily obtained from the coloring matter a "distinct crop of octohedral crystals of arsenious acid." There were no constitutional symptoms present—the affection being entirely confined to the eruption on the legs, and a chain of vesicles following the course of the absorbents on the inside of one thigh.

HAMPSHIRE DISTRICT MEDICAL SOCIETY.—A very full and enthusiastic meeting of the Society was held May 13th. A paper on Bright's disease of the kidneys was read by Dr. Gardner Cox, and the annual election of officers took place. The meetings of the Society were never so fully attended as now. Officers for the ensuing year were chosen as follows:—

Dr. C. L. Knowlton, *President*.

Dr. Oscar C. DeWolf, *Vice President*.

Dr. James Dunlap, *Treasurer*.

Dr. J. B. Learned, *Secretary*.

Councillors.—Drs. O. C. DeWolf, S. A. Fisk, G. E. Thayer, Gardner Cox.

Censors.—Drs. C. B. Smith, James Dunlap, F. C. Green.

Orator.—Dr. Franklin Bonney.

Commissioner of Trials.—Dr. H. B. Stoddard.

At the International Exhibition, opened last month in London, there was a display of surgical instruments. Among the more interesting features of this department were cases of old and obsolete appliances, including *fac simile* reproductions of instruments discovered at Pompeii, the famous speculum vaginae with the rest. A circumcision knife of the fourteenth century and the lithotomy instruments of John Abernethy were also shown.

NORFOLK DISTRICT MEDICAL SOCIETY.—At the annual meeting, at Hyde Park, May 14th, the following officers were elected for the ensuing year, 1873-74:—

Dr. Robert T. Edes, *President*.

Dr. Silas E. Stone, *Vice President*.

Dr. A. H. Nichols, *Secretary*.

Dr. J. S. Green, *Treasurer*.

Dr. D. S. Fogg, *Librarian*.

Councillors.—Drs. R. Amory, G. J. Arnold, J. W. Chase, H. Blanchard, B. E. Cotting, W. C. B. Fifield, F. F. Forsaith, C. C. Holmes, E. Jarvis, J. Stedman, S. E. Stone, C. C. Tower.

Censors.—F. W. Goss, W. B. Trull, C. C. Tower, G. Faulkner, E. T. Williams.

Commissioner of Trials.—Dr. Robert Amory.

Committee of Supervision.—Drs. W. S. Everett, B. Cushing.

NOTES AND QUERIES.

THE "IMPARTIAL PRESS."—The *Boston Post*, of May 1st, says of the Massachusetts Medical Society, holding a trial session, in accordance with the laws of the State and with its By-Laws (as recently confirmed by the Supreme Court), that there was

"No relaxation of the strict rules, . . . but the whole of the proceedings were easily ascertained, and are given below in detail."

The same newspaper, May 12th, says of a meeting convened to obstruct the operation of a law of the State,

"An adjourned meeting of the brewers and bottled ale dealers was held, . . . At the request of the meeting, the proceedings are at present withheld from publication."

Comment is unnecessary!

VIENNA.

MORTALITY IN MASSACHUSETTS.—Deaths in fifteen Cities and Towns for the week ending May 10, 1873.

Boston, 132—Charlestown, 9—Worcester, 19—Lowell, 15—Milford, 4—Chelsea, 2—Cambridge, 19—Salem, 14—Springfield, 4—Lynn, 13—Fitchburg, 2—Newburyport, 7—Somerville, 7—Fall River, 25—Haverhill, 5. Total, 277.

Prevalent Diseases.—Consumption, 57—pneumonia, 28—cerebro-spinal disease, 25—scarlet fever, 9.

Deaths from cerebro-spinal disease are reported as follows:—Boston twelve, Lowell four, Cambridge and Charlestown each two, Worcester, Salem, Springfield, Lynn and Somerville each one. Worcester, Cambridge and Fall River each report one death from small-pox.

GEORGE DERBY, M.D.,
Secretary of the State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, May 17th, 134. Males, 79; females, 55. Accident, 4—abscess, 2—apoplexy, 1—inflammation of the bowels, 1—bronchitis, 5—inflammation of the brain, 3—disease of the brain, 7—cyanosis, 1—cancer, 1—cancrum oris, 1—cerebro-spinal meningitis, 9—consumption, 22—cholera infantum, 1—convulsions, 2—debility, 2—diarrhoea, 1—dropsy, 3—dropsy of the brain, 2—drowned, 1—erysipelas, 1—scarlet fever, 9—typhoid fever, 2—disease of the heart, 2—imperforate anus, 1—intemperance, 2—disease of the kidneys, 6—laryngitis, 1—disease of the liver, 1—congestion of the lungs, 3—inflammation of the lungs, 10—marasmus, 1—measles, 2—old age, 4—paralysis, 1—pleurisy, 1—premature birth, 2—peritonitis, 2—puerperal disease, 3—disease of the prostate, 1—pyæmia, 1—syphilis, 2—smallpox, 2—tabes mesenterica, 1—tumor, 1—unknown, 4.

Under 5 years of age, 53—between 5 and 20 years, 19—between 20 and 40 years, 30—between 40 and 60 years, 17—over 60 years, 15. Born in the United States, 87—Ireland, 29—other places, 13.